Barry L. Forsythe II, Ph.D.
U.S. Fish & Wildlife Technical Liaison
U.S. EPA Region VI
1445 Ross Avenue
Suite 1200 (6SF-LT)
Dallas, TX 75202
Phone: (214)665-8467 Fax: (214)665-6660

TO: Mr. Gary Miller, Remedial Project Manager
U.S. Environmental Protection Agency, Region 6

FROM: Barry Forsythe, Ph.D., Technical Liaison
U.S. Fish & Wildlife Service

DATE: 14 January 2010

RE: Documents: Revised Screening-Level Ecological Risk Assessment (SLERA), Gulfco Marine Maintenance Site, Freeport, Texas.

I have reviewed the Response to Comments and revised SLERA for the Gulfco Marine Maintenance Site, Freeport, Texas. It is my recommendation that the SLERA be approved after addressing the following comments. Many of these issues were discussed in the meeting at TCEQ (January 6, 2010). It is my recommendation that any subsequent revisions be done in the form of errata sheets, rather than re-printing numerous copies of this document. Also, suggest that they move forward in the 8-step process and draft/submit for review a baseline problem formulation and COPEC refinement document (maybe as Tech Memo?).

General Comments:

1. The methodologies and assumptions utilized in this draft SLERA go beyond that of a normal SLERA, as per EPA (1997) guidance. Many of the things considered (use of means, 95 UCLs, LOAELs, foodchain modeling, comparisons to background, etc.) are typically done in a baseline ecological risk assessment (BERA).

2. Comparisons to background concentrations of COPECs appear to have been done prior to screening site media exposure point concentrations (EPCs). EPCs should be screened first, as background is not typically allowed to be used to remove COPECs from further evaluation in a SLERA. This step is normally done in a BERA. Understanding that this document is more advanced (i.e., basically a BERA minus site-specific toxicity and tissue data), this step should be done after COPECs are screened against benchmarks.

3. Suggest for clarification and transparency, that figures previously generated showing sample locations with all COPEC HQs > 1 (specifically those where the AET was used) be a part of this submittal. By showing these on a figure (map), reviewers would be able to make a determination as to concentration gradients and/or hotspots.

4. Were any of the tissue (fish and crabs) data from the site used to calculate site-specific BAF values?

5. An appropriate conclusion section, including SDMPs, needs to be provided. It was discussed that there is a willingness to go to next steps, but this should be a result of the SLERA and presented as such. All COPECs that failed the screen (direct comparison of media concentrations to screening values) should be listed and said to require further investigation. I feel it would be appropriate for the PRP to then move to EPA's Step 3a of the Ecological Risk Assessment Guidance (1997) to further refine the list of COPECs.

Barry L. Forsythe II, Ph.D.
U.S. Fish & Wildlife Technical Liaison
U.S. EPA Region VI
1445 Ross Avenue
Suite 1200 (6SF-LT)
Dallas, TX 75202
Phone: (214)665-8467 Fax: (214)665-6660

This is where they would be able to utilize less conservative (e.g., more realistic) assumptions for exposure and effects. Examples would be to use background comparisons and measures of central tendency (i.e., 95UCL rather than maximum, 100% bioavailability, average body weights, etc.).

Specific Comments:

1. Table 18: The testable hypotheses and measurement endpoints for plants and earthworms should indicate a comparison to maximum soil concentrations and not 95%UCL or averages. The testable hypotheses and measurement endpoints for the remaining terrestrial receptors should be revised to exclude 'average' soil concentration comparisons.

2. Table 19: The testable hypotheses and measurement endpoints for benthos and zooplankton should indicate a comparison to maximum sediment concentrations and not 95%UCL or averages. The testable hypotheses and measurement endpoints for the remaining aquatic receptors should be revised to exclude 'average' sediment concentration comparisons.

3. Table 20: While informative, EPA guidance suggest usage of background data be evaluated in the BERA and as such this table would be more appropriate for an appendix (B).

4. Section 4.1.1, Page 35: It is stated that, "it is believed that the overall impact of uncertainties related to the exposure analysis results in an overestimate of risk." Suggest that this may not be the case as EPCs were means and 95 UCLs, rather than typical SLERA-used maximums. At this stage of the investigation it is preferable to err on the side of conservatism. The BERA is the appropriate avenue to adjust exposure assumptions to reflect a more realistic exposure and possible effects.